cycles

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Program

Our program is (1) *to collect* as many examples as possible of rhythmic fluctuations in all fields of natural and social science, (2) *to measure* each of these rhythms with the greatest possible accuracy, (3) *to record* the latitude, longitude, wave length, wave shape, timing, and strength of each cycle in such a way that any qualified worker can reproduce the work and obtain the same results, and so that he can, if he wishes, take issue with the methods used by the worker to isolate, definitize, and evaluate the cycle, (4) *to stimulate* and help others to do these same things, (5) *to print* the results of all this research, (6) *to arrange*, collect, catalog, and group the cycles thus discovered and definitized, (7) *to discover the laws* which govern the operation of cycles, and (8) *to deduce* the *cause* or causes of cycles—all for the benefit of mankind.

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Director's Letter

Dear Member:

I was approached the other day by one of our members who has an indicator that turns ahead of stock prices. The indicator seems to do for stock prices what the Geisinger Indicator does for industrial production.

This man wanted me to start a service based on this indicator, and to pay him a royalty. I refused because I do not wish to become deflected from the study of cycles.

The thought occurred to me that it would be interesting for you if I could make some arrangement to publish this indicator in *Cycles*, just as we publish the Geisinger Indicator. If the indicator is as good as it seems to be, this action would help you, and it would take little or no attention from me.

Why then did I decide not to present the idea to our Board of Directors? Because, to publish an indicator of this sort would impair our *status*. It would smirch us with stock market tipsterism. It would cheapen us in the same way that it would cheapen us to accept advertising of stock market forecasting services—a thing we consistently refuse to do.

Why this difference? Why is it respectable to print an indicator of industrial production, and not respectable to print an indicator of stock prices?

The answer lies, I think, in the fact that industrial production is of real value to mankind, whereas stock trading merely benefits one man at the expense of another. It is not exactly anti-social, but it doesn't produce anything. Stock speculation is a game of skill like playing bridge for money, or betting on the horses. Its good fun (especially for the winners) but no one can say it does anything for humanity.

A second reason people frown on attempts to forecast the market may lie in the belief that such forecasting is impossible and therefore that anyone claiming to be able to do it is necessarily a fraud.

A third and final reason for the lack of respectability of so-called tipster sheets is the peasant wisdom of all of us that asks, "If this scheme or indicator is so good, why doesn't its inventor keep the knowledge to himself and make the proverbial million?"

Factual information in regard to cycles in the market lies within our province. Even the statement that, if the patterns of the past continue, such and such will happen is proper. All this, kept in due proportion, is part of legitimate cycle study. But to go beyond it, no!

Teamwork

Did I ever tell you about the time I was made a corporal at Plattsburg officers training camp in World War I?

In those days a squad consisted of four men in the front row, four men in the rear. The corporal, in charge of the squad, was left man (looking at the squad from behind) in the front row.

At the start of drill the squads lined up side by side to make two long lines of men, every fourth man in the front row being a corporal.

At the command "Squads left, march!" each squad pivoted counterclockwise on the corporal as axis. The men then marched to the left in a column four men wide, the left hand man in every other row being a corporal.

When I was made corporal I was very proud—and smug. I had been a sergeant in the Harvard regiment. I knew the drill book from A to Z. I would show those rookies!

Came the command "Squads left, march!" I pivoted to the left *exactly* as I should and started to march—*very* self-satisfied. But I was awakened from my complacency by a shout from the captain—obviously directed at me—"Corporal! Where in hell's your squad?"

It seems that the other fellows, not yet knowing just what to do, had got all mixed up and were wondering off by themselves in another direction.

I realized then, and I've never forgotten it, that the job of a corporal is somehow to hold his squad together and to bring the *whole* group along more or less as they should go, rather than to be letter-perfect himself.

In cycle work we have failed to do this—not because of any lack of appreciation of the need, but because of lack of funds. The result is that, although *we* may have gone a certain distance down the cycle road, we haven't brought the *other* fellows with us. And in cycle work, as in everything else, it is teamwork that counts.

Things are now changed—to a limited degree. Our new Basic Research Program offers money to stimulate and to organize a host of workers into meaningful action and cooperation.

Make no mistake! Proceeding in the new way will *check* progress—temporarily. As the old clerk in one of the offices in Washington put it during World War II, "Everything goes so much slower, since the emergency!" You can take ten steps forward yourself in the time it takes to get a dozen people to take one.

We found this out when, some time back, we asked for volunteer assistance in connection with *CYCLES*. We had to postpone the plan because we simply did not have the horsepower to make use of the "help."

If I were a genius and had any reasonable hope of solving the mystery of cycles without any help at all, I'd cut the traces and gallop off by myself for a touchdown (to mix metaphors). But being just an ordinary fellow I feel that *team-*

work is best in the end.

The Miniature Island

I'm often tempted to write in the Director's Letter things other than cycles. You see, I'm not exclusively a cyclomaniac. I do have other interests.

Perhaps I should. I remember a speaker at a club I used to belong to in Washington, D. C. who said, "If you have something to say, always say it. A man in Africa may be inspired by your words with heaven only knows what consequences for the good of mankind.

One of my brain storms is called "The Miniature Island." It stems from my inability to grasp the significance of big numbers. I'm something like a monkey. Monkeys, they say, can count up to three (or is it five?). Anyway, let three men go into the forest and two come out, a monkey will know that one man is still in there. Let seven go in and six come out and he won't know the difference. I'm a little better than the monkeys—after all we have to credit Dartmouth and Harvard with something!—but you get the idea.

So, when big numbers get thrown at me from all directions—three million of this, seventeen billion of that—I get muddled. Of course you don't, but then you may not have monkey ancestry.

To overcome my limitations, I devised a little mental model of the United States on the scale of 1 to 100,000. That is, for each 100,000 of something—say pigs—in the real United States the model would have one. In this way everything reduces to *comprehensible* size.

As the real Continental United States has 3,022,387 square miles the small scale model has 1/100,000 of this, or 30 square miles. In other words it is a little island that you can visualize as being about 10 miles long and about 3 miles wide. Hence, the name, Miniature Island.

This island is about 1/4 desert, 1/4 forest, 1/4 pasture and 1/4 tilled. There are 47 farms, all told. And of course 1,762 people live on the island.

Recently the people of this island gave statehood to neighboring island possessions called Alaska and Hawaii. Alaska is 2 miles long and 3 miles wide. It has 2 people living on it (including the armed forces). Still, these people will have a 1/50 voice in the part of the government called the "senate!" Hawaii on the other hand is an island only about 1,200 feet on a side with 6 people living on it. Of these, 1 is white, 3 Oriental, 1 native Hawaiian, 1 mixed.

Do you see what I mean about figures becoming vivid when we reduce them down to values that are directly apprehendable? Isn't "two men living on a 2 mile by 3 mile island" easier to comprehend than the statement, "The population of Alaska is 211,000; the area 586,400 square miles"? It is for me anyway.

This technique is capable of infinite expansion. You can use it to study the farm situation, the negro problem, the matter of highways, automobiles, cancer, prostitution, literacy, distribution of wealth, imports, production, wages, crime, social service, fire losses,—anything your heart desires (except cycles!)

You can extend it to other countries—the entire world. When you read an article on India, let us say, and read some statistics, they can at once become meaningful. Miniature India, it seems, is a small island only 6 miles long and 2 miles wide, but it has over 35 hundred people. Only 40 of these people speak English. They rule the country. Only 25 copies of the daily newspaper are printed. The whole country has only 10 radio sets and 3 telephones. (Miniature U.S.A. has over 660 telephones.) Even by 1961 there will be but 1 1/3 miles of all-weather roads. Of this mileage only *80 feet* will be two-lane! Miniature U.S.A. has over 24 miles of all-weather road, all of it two-lane.

The expedient of percentage gives you some of the advantages of the Miniature Island technique. It will relate any two things in which you are interested in comprehensible terms. For example 10% of the people in the United States are colored; 2 1/3% of the people of India are Christian. You can then relate Christians in India to Negroes in America. But the Miniature Island technique enables you to relate *all* these things, not only *directly* with each other, but with everything else. In Miniature World you have 175 Negroes in America, 93 Christians in India, 23 Puerto Ricans (outside New York City!), 58 people in Cuba, 1 person engaged in producing cotton in Peru.

Miniature Island (U.S.A.) has 220 war veterans. Last year it spent $50,980 to or on behalf of these people.

The technique of Miniature Island would have had considerable advantage in explaining the differences between say United States and Russia, or any other country, if it had been used as an actual physical model at the World's Fair in Brussels or at our exposition in Moscow. Perhaps another time we will use it. In the meantime you can put it to work, mentally, when someone starts throwing big figures at you.

Merry Christmas,

Edward R. Dewey

Research by Staff

CYCLES, THE SCIENCE

PART IV: THE SUN AS A CAUSE OF CYCLES

BY EDWARD R. DEWEY

In the first of this series of articles (*Cycles* for June, 1959), I presented the hypothesis that guides our work. It is the notion that there is "something out there" that tends to *force* natural and social phenomena into rhythmic patterns. "Out there" could be in the sky, in the atmosphere, or inside the earth.

Don't get the idea that we are trying to *prove* this hypothesis. Far from it. We'd just as soon *disprove* it. All we are trying to do is to find out the facts, one way or the other.

In the second article of this series, I named some of the causative factors that might account for some of the cycles. I mentioned the moon, the sun, the planets, energy waves, etc.

The third and fourth articles considered the moon as a cause of cycles. I showed you that the moon did indeed cause some rhythmic cycles here on earth, but that it was woefully inadequate to explain the welter of cycles that we and others have been observing in all sorts of natural and social behavior.

This article will discuss the sun. It will talk about how the sun may influence earthy events. You will see that the sun is much more important than the moon as a source of cycles—in fact many people think that the sun is the source of *all* of our terrestrial cycles.

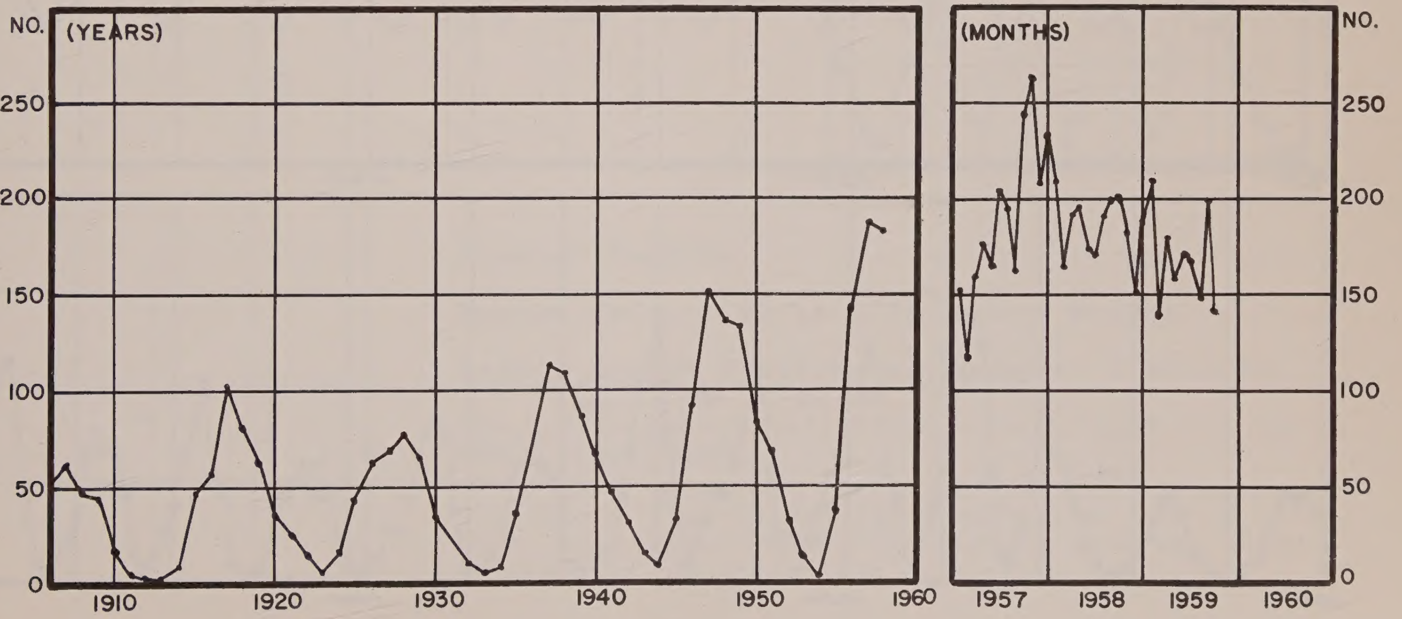
Of course, the gravitational pull of the sun keeps us from flying off into outer space and into consequent oblivion. Thus the sun, directly, creates our year. And, of course, by being where it is, the sun creates our alternation of day and night. These things, as well as the fact that the sun is responsible for our warmth and for all life, we will pass over. They are commonplace miracles that man takes for granted.

More to the point, for our purposes, is (1) the fact that as seen from the earth the sun rotates about its own axis once in about 28 days, and (2) the fact that disturbances on the surface of the sun (sunspots) tend to be more numerous at about 11 1/5-year intervals. Both of these events have associated terrestrial behaviors.

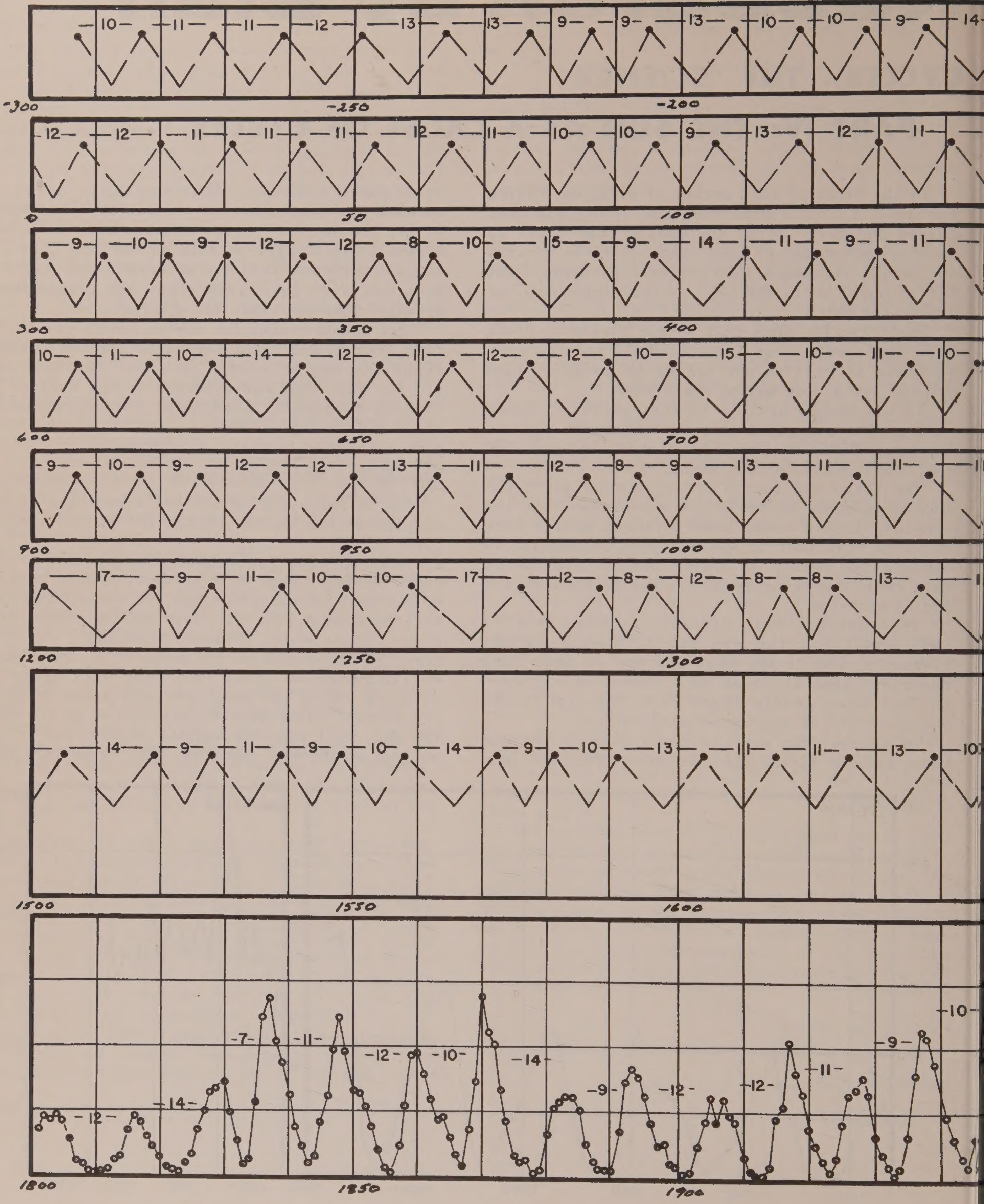
The 28-Day Rotation Cycle

The 28-day cycle of the sun's rotation is the simpler of the two phenomena. Let us consider it first.

Suppose some particular disturbance on the sun's surface, such as a sunspot, should have an effect here on earth. As the sun turns, the spot will point away from the earth and the effect will cease. After about 26 days, plus about two days more (for by that time the earth will have changed its position, too), the spot will again be directed toward the earth and will again register its effect. After another revolution of the sun, the spot will register another impact, and so on, as long as the spot persists. These behaviors will



Zurich Provisional Sunspot Numbers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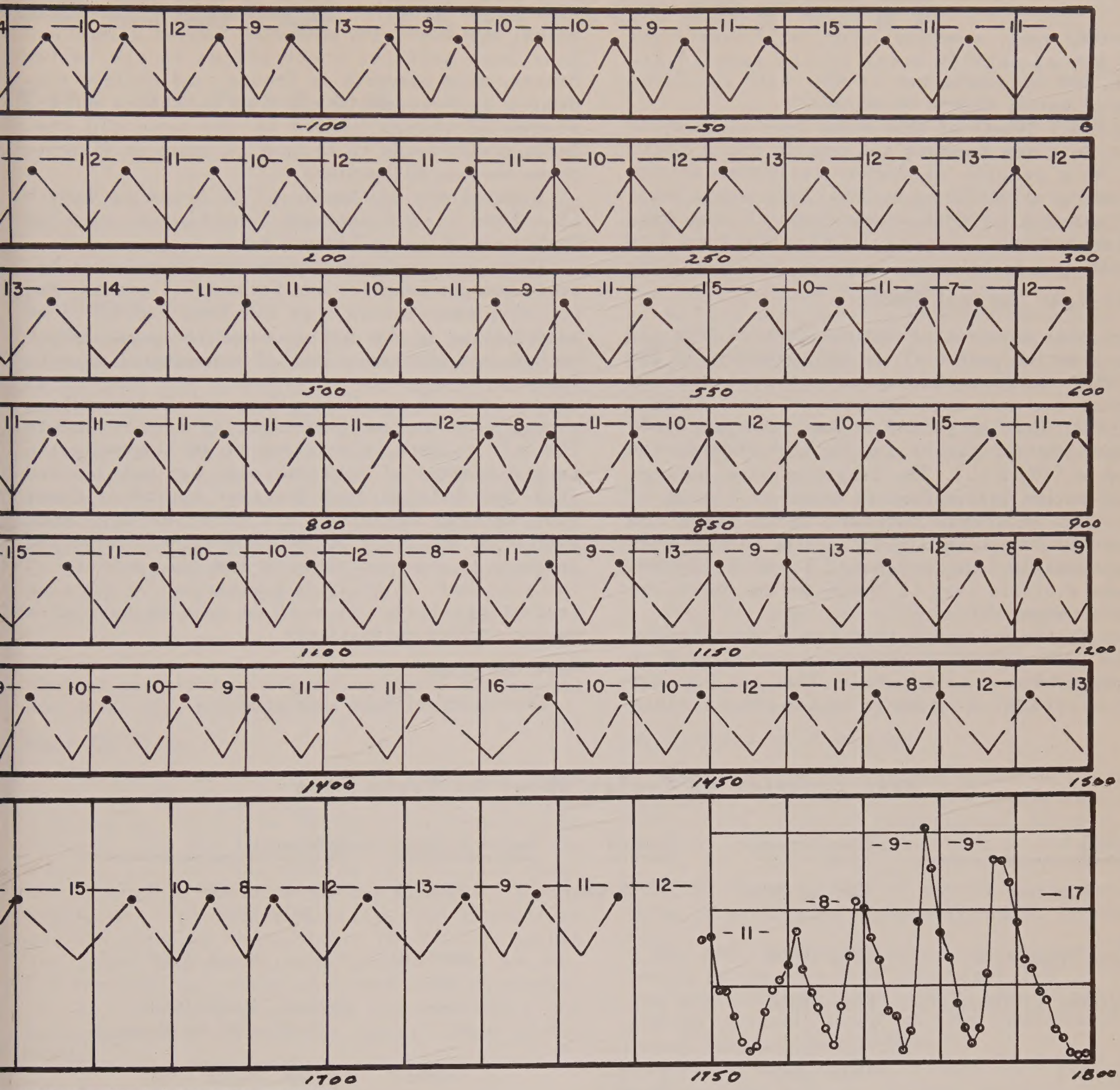


Sunspot Numbers

Maxima Only, -293 to 1738, After Schove

Yearly Zurich Provisional Numbers, 1749-1958

The B.C. years are called minus years, with the year 1 B.C. being zero.

The Schove figures are years of maxima and do not have a numerical value. The zig-zag line was added to show the possible cycle appearance.

create an earthly cycle about 28 days long, for a while.

Another spot, sometime later, will create another set of earthly waves of the same 28-day length, but of course not in step with the first series of waves, except by accident.

The exact length of this solar revolution cycle cannot be given because the sun is not a solid body. As a result, different latitudes of the sun revolve at different speeds. Before you could know the earthly effect, cyclewise, of some particular sunspot, you would have to know its latitude.

The 11-Year Sunspot Cycle

Much more interesting and provocative than the 28-day rotation period of the sun, however, is the fact that solar disturbances, as evidenced by sunspots, are much more numerous at about 11-year intervals. This so called 11-year sunspot cycle has been present for as far back as records are available (294 B.C.). The length of time between sunspot maxima varies from as short as 7 years to as long as 17 years. However, short waves are followed by long waves and vice versa so that over any reasonably long period of time the length averages a little over 11 years. No one knows why sunspots behave this way.

Any rhythm on earth that has a wave length about 11 years long is immediately attributed by the mass mind to a solar origin. Even the 9.6-year cycle of animal abundance in Canada is close enough in wave length to 11 years so that otherwise intelligent (we hope) people have associated animal abundance with sunspots! Similar allegations have been made for stock prices in the United States, wine harvests in France, and cholera epidemics in Moscow, to mention but three of the scores of things blamed on the poor old sun. Serious work needs to be done to prove or disprove these various allegations.

Some of the cycles about 11 years in length that have been discussed from time to time in *Cycles* are given in Table 1 below.

There are many provocative correspondences between sunspot behavior and terrestrial events, but the only association that has been *proved* to my satisfaction is the correspondence between sunspot numbers and the variations of terrestrial magnetism.

As part of our Basic Research Program (see page 273) we are now investigating sunspot numbers 294 B.C. to date in relation to an 11-year cycle in the indexes of international war battles and civil war battles over the same period of time. When we have finished this study we will *know* whether or not there is any connection between the indexes of sunspot numbers and the indexes of man's tendency to kill his brother and/or his more distant relatives. It will be good to have this matter settled definitively.

More To Come

This story will be continued.

Some Examples of Cycles About 11 Years Long

Phenomena	Time Period	Length	Current Crest	Reference
Sunspot Numbers	1526 to date	11.15 years	1960.55	Journal of Cycle Research July 1958
Pig Iron Production	1844--1958	11.2	1961.00	Cycles, March 1959
Crop Yields in Wisconsin	1866--1946	11	———	Cycles, April 1958 (after W. M. Morris)
Earthquakes	1305--1889	10.94 or 10.96	(1961)	Cycles, March 1958 (after Dr. C. Davidson)
International Battles	1750--1957	11.175	1960.50	Cycles, February 1958
Stock Market	1854--1943	11.00	1963.50	Cycles, January 1957
Commercial Crises	1793--1847	11	———	Cycles, January 1957 (after Dr. Hyde Clark)
Weather at St. Louis and Peoria	1854--1939	11.375	———	Cycles, December 1956 (after Dr. C. G. Abbot)
Insect Pests	———	11	Conforms with Sunspot Maxima	Cycles, October 1956 (after J. Schultz)
Migration of Jays and Siberia Prairie Hen	———	11	Conforms with Sunspot Maxima	Cycles, October 1956 (after J. Schultz)

Basic Research

THE PROGRAM

By Edward R. Dewey

How are we going to spend the $20,000 a year for Basic Research, when we get it?

The answer is up to our Directors, but for what it may be worth, here are some of my ideas.

A Science of Cycles

The object of our activity should be to create a *science of cycles*. Such a science, as far as techniques are concerned, is a subdivision of statistics; as far as subject matter, it is a subdivision of each of the 36 different branches of science where rhythmic behavior is found.

A science consists of a body of well organized facts, together with a knowledge of the *laws* governing the behavior involved. And this, of course, involves a knowledge of *cause,* in so far as it is knowable. To be alive, a science also involves a group of practitioners.

The science of cycles deals with figures that represent successive events—i.e., time series. In the first instance, it is concerned with whether or not these figures evidence rhythm—ups and downs that repeat with a *beat*.

What To Know

The important things to know about any given rhythm are the following: (a) the exact series of figures in which the rhythm is alleged to be present, (b) the latitude and longitude of the events, (c) the exact period of time over which the rhythm was observed, (d) its strength, (e) its dominance, (f) its regularity, (g) whether or not its strength is constant, (h) whether or not its length varies, (i) the timing of the rhythm, (j) how long the rhythm continued after discovery, (k) the techniques used in its isolation and definitization, and (l) the typical shape of the waves.

The Steps

Our first step, in trying to create this new science, should be to find the facts that have already been discovered. This step will give us our CATALOG OF CYCLES.

This activity will also give us the names of the *persons* who have done the work. The names of such of them as are still alive should then be collected in a DIRECTORY of cycle scientists, like the one we published in 1940.

The work of these scientists should then be *coordinated,* by granting them the status of SCIENTIFIC MEMBERSHIP in the Foundation.

The papers of these persons should be acquired to help build our LIBRARY.

Their work should be studied, and where the work fails to meet the standards set forth above, the authors should be stimulated to do the work over and to present the results in suitable form. When the authors are unable or unwilling to do this work, it should be done for them, and their findings confirmed or denied.

As this work goes on, RESEARCH should be conducted by the Foundation, and the results of the research PUBLISHED in the various scientific journals, including the JOURNAL OF CYCLE RESEARCH.

The while, new and better TECHNIQUES for isolating and evaluating rhythmic fluctuation should be developed.

The activities so far enumerated can be likened to the raking of a huge pile of leaves. By themselves they are nothing. The next step is the ORGANIZATION of all this material into a related body of knowledge.

Finally, from this material in organized form, with the addition of a certain amount of genius, we may get a burgeoning of THEORY. When theory has been proved, we will have LAWS. When we have laws, we may be able to deduce CAUSE.

An Example of Research

One of the subjects on the agenda is a study to see if the 11.2-year cycle discovered some years back in the number of international battles, 1750 to date, extends all the way back to 600 B.C.

If it does, we will have incontrovertible proof of the existence of another cycle and something of real value in connection with forecasting war.

We plan to study this cycle to see if its length is constant over the entire 2500 years. If its length changes from time to time we may get a clue as to cause, if we can find something else in nature that changes likewise.

We also plan to see if this 11.2-year cycle stays in step with the 11+-year cycle of sunspots. If so, we will have learned more about cause. If not, we will have done some debunking of a popular superstition.

Most of the results, with suitable back-up, will be published in the *Journal Of Cycle Research* or in some other scientific publication. A summary of conclusions, however, will of course be published in *Cycles* for the benefit of our members.

Applied Research

In addition to the *basic* research we plan to continue our *applied* research. Projected applied research projects include finding the usable cycles in soy bean prices, coffee prices, cocoa prices, and lard prices, as well, of course, as possible short cycles in stock prices.

Library Additions

A REVIEW OF COMMON STOCKS AND BUSINESS CYCLES

Common Stocks and Business Cycles by Edgar Lawrence Smith, the William-Frederick Press, New York, 1959. A gift to the Foundation from the William-Frederick Press.

This book expounds a particular hypothesis which is contrary to orthodox economic thinking—a point on which Smith spends some time.

This hypothesis is that the *changes* in man's environment induce changes in mass psychology. One of the manifestations of these mass psychology changes is the change in the price of stocks. Furthermore the changes in environment and stocks are so similar that they can be compared directly, i.e., weather against stock prices. And both are cyclical in nature. By cyclical he means (as we do) that they follow a repetitive pattern. Smith puts the general length at about a decade, and develops what he calls a decennial pattern (which includes about 3 waves of about 40 months per decade.)

The background Smith covered reaching his present point of view is reviewed in the first portion of the book. In his book, *Common Stocks as Long-Term Investments* (the Macmillan Company, 1924) he developed what came to be called "the common stock" theory. A simplified explanation of this theory is that, over the long run, common stocks (of course, diversified holdings in leading companies) are better investments than bonds. They are safer, yield more income, and have more eventual market value.

This theory has withstood many tests, (even stocks bought at the peak of 1929 could have been sold at a profit after 1953), but Smith regrets that one important qualification of the theory has been overlooked by many students. That element is timing, which he considers to be about the greatest hazard of investment management. The element of time is a factor to be considered *in addition to* the other factors as developed by orthodox economics.

According to Smith, it is possible, by a study of interrelationships, to decide when credit is dangerously overexpanded, but it is not possible to pinpoint in time the particular moment when a contraction in credit and subsequent decline in stock prices is imminent. That is, we cannot really answer beforehand the question, "How high is too high?" until we know *why* a downturn comes. In fact, the usual criteria for deciding that credit has been overextended is the occurrence of the subsequent collapse. Before the collapse one can be suspicious; only after the crash can one be sure. Smith's point is not that one should ignore the intra-part relationships that indicate the situation is dangerous, but rather that an additional tool is here provided which can help to time the turn.

Smith points out that while economic analysis such as Mitchell's monumental *Business Cycles* (which, incidentially, concludes that cycles recur, but not regularly) does explain interrelationships of parts of the economic system, it does not explain the cause of the turning points.

(I might add that the same argument also applies to the currently popular indicators which turn prior to general business. It is difficult to explain yet *why* these prior indicators turn when they do.)

Smith believes he has the beginning of the answer to the question of cause in his weather-compared-to-stock prices study.

These arguments are worth restating here because of the questions we sometimes get as to what we think of econometric analysis, for example. It is convenient to explain price changes in terms of factors—but then you have to in turn study the factors—eventually you reach a key point where time analysis (i.e., cycles) and that alone will give you the final answer to a key turning point of a key factor. Then all the rest follows.

The second part of the book is devoted to factual evidence in support of the hypothesis and the gradual development of this evidence through many steps.

Rather than trace these one by one, I would like to present just one chart from the book. This chart certainly seems to bear out Smith's thesis. The weather pattern is developed by the following formula:

$$\left[1/2\ (\text{March} + \text{September})\ \text{Temperature Range} - 10\ (1/2\ \text{April} + \text{October})\ \text{Rainfall}\right]$$

Of course, you have to go into the book to follow the step-by-step presentation of the work leading up to this formula—it is enough to say here that prices tend to vary negatively with rainfall, but positively with temperature.

In the course of the development of the material supporting his hypothesis many questions which such a chart bring to mind are answered by Smith. I want to add one additional note of explanation about the chart. The comparison is between the weather of one year and the change in the market between that year and the next following one. This point is important—in October of any given year one would presumably have an indication of the level of prices the following June, *on the average*.

The next step in the presentation is based on the assumption that the weather indexes are a measure of a more elemental force--that force being the sun. Smith pays particular attention to Henry H. Clayton's suggested master sunspot cycle length of 89.4 years, and finds (on the assumption of a direct relationship between the sun and prices) a remarkable similarity of price changes recurring every 89 1/2 years.

Smith also presents evidence which supports the 9-year cycle in stock prices, particularly with respect to lows.

To go more deeply into the many matters discussed would require more than a book review—it would require the book itself.

The writing is clear and the presentation factual. Whether or not one agrees with the thesis, reading the book will not be time lost, as it is in general informative and entertaining to one interested in the general subject of the stock market.

G. S.

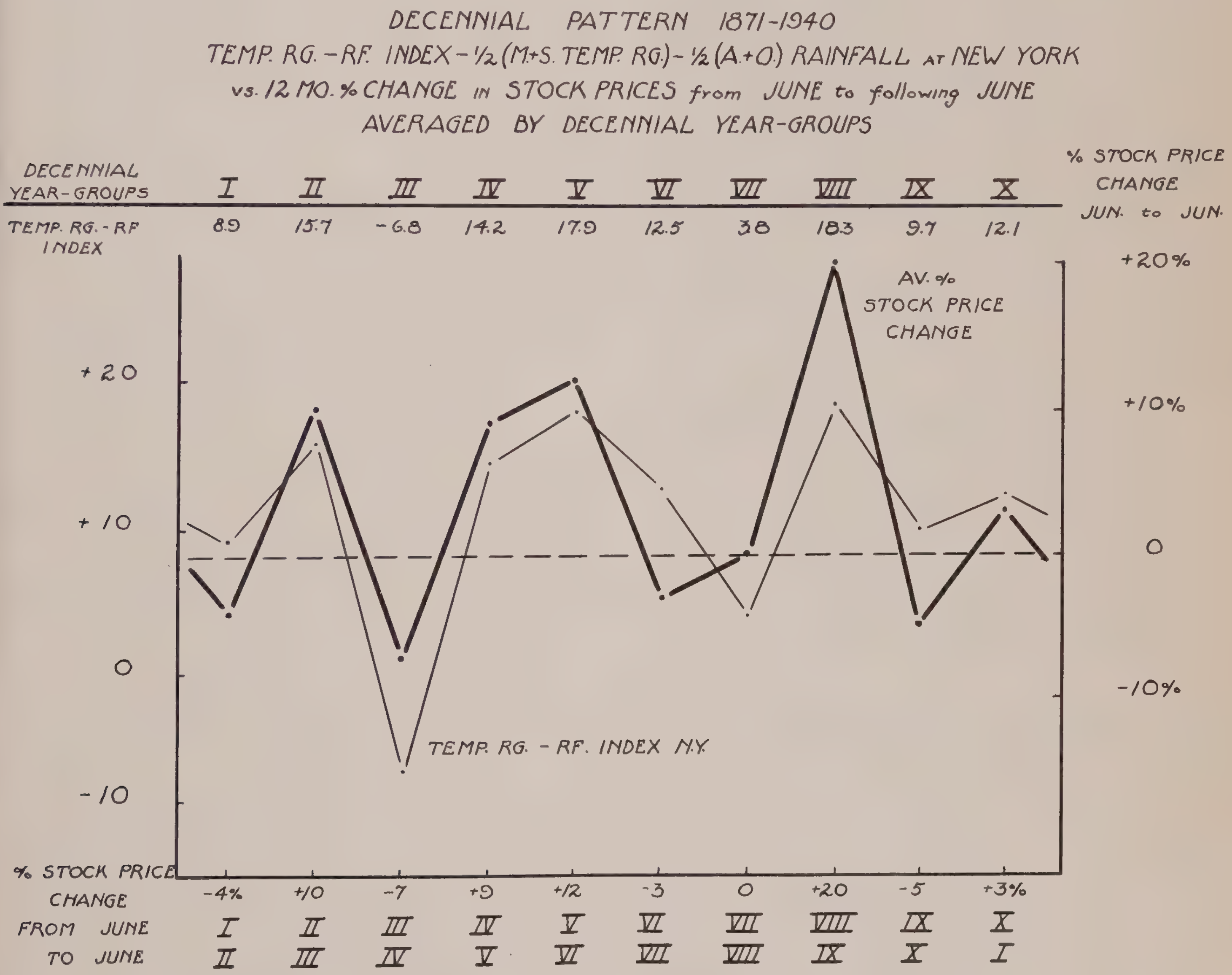


Figure 21, Page 129, from *Common Stocks and Business Cycles*. Copyright 1959 by Edgar Lawrence Smith. Reproduced with permission.

Letters to the Editor

CREATIVITY

A member sent along a news release from the University of Michigan News Service.

Ann Arbor - The scientific world will reach a peak of creativity in 15 years. But a new Dark Age can follow within a century.

These predictions come from a University of Michigan social scientist interested in historical cycles of creativity. He is S. Stewart West (PhD), study director of the U-M Survey Research Center.

Figures on scientific activity dating back as far as 600 B.C. show that peaks of creativity have occurred about once every 164 years, he explains. A similar interval separates low points in creativity.

West says the next crest should be due in 1973—give or take a few years. He estimates the next low—a "major minimum"—around the year 2055 A.D.

The U-M researcher acknowledges that information for this type of forecasting is sparse, and explanations for these cycles are even harder to find. But he supplements historical data with the following:

1. A statistical analysis of membership trends in the American Physical Society, which indicates its fastest growth will come just a few years after 1973;
2. Observation that the year 1980 will approximate the end of creative life for those persons whose scientific training was completed by about 1940—when "team" research began to be important; and
3. Population forecasts for 20 Western nations, which indicate a new period of stability in the mid-21st Century.

While some experts have tried to use changes in climate to explain historical ups and downs of creativity, West believes population growth rates may have some effect on this process.

"Varying kinds and degrees of social interaction at certain periods during the growth of population from one relatively stable size to another may produce more personalities of the kind required for scientific creativity," he says. Conversely, scientific activity may be low during periods of population stability.

The U-M researcher doubts that knowledge of "creativity cycles" will enable man to avoid an eventual decline in scientific achievement.

"These cyclic swings appear to be fairly stable and inevitable," he comments. "Even after all the excitement created by the first sputniks, relatively little happened to improve conditions for scientific performance."

West emphasizes that any decline in scientific creativity will probably be world-wide, and not limited to the United States alone: "Russian science is part of Western science. Russia and the U.S. appear to be converging toward the same type of culture—from widely separated points, of course."

CYCLES OF THE MOON

The Palolo worms and others are actually annual affairs that occur annually with the actual breeding triggered by the lunar cycle. It is not lunar otherwise.

The 10-lunar month cycle of the Wideawakes seems to be a triggering also, the moonlight being the triggering mechanism.

Ann Arbor, Michigan — Leonard W. Wing

THE STOCK MARKET

Dear Mr. Dewey:

Keep up the good work, but don't go to the poorhouse doing it!

I was very interested in the 17-week cycle found in stock prices. I found this cycle to be very much in evidence in some of the recent speculative favorites. I have been unable to find this cycle in other issues where weekly and monthly figures are released which are perhaps the basis of any stock moves in these groups.

I am now wondering if this 17-week cycle is influenced by the money market and its effect on speculation unguided by production and inventory figures. I refer to the book entitled "The New Technique of Uncovering Security Bargains" by John Durand, printed in 1928 by the Ticker Publishing Company.

This writer states that the money market shows seasonal variations and that commercial loans "tend to rise from February to May, fall off from May to July, advance again from July to November, and then decline from November to February"... Bills, discounted, which reflect stock market as well as commercial demand for credit, follow a less regular cycle. Usually, however, they reach a maximum toward the end of December, and decline rapidly during January. They frequently make another low point in June or July. Rates for call money parallel the changes in bills discounted quite closely...Durand then notes that major reactions in the market tend to occur during the first and fourth quarters of the year.

I will admit that these lows are not exactly the lows of the 17-week cycle, but two of them coincided this year and last.

Is it possible this 17-week cycle should be adjusted to make it a seasonal cycle occurring at almost the same time every year?

A similar clue to this seasonal variation is found in the past performance of the market tabulated by months which looks something like this:

January	up
February	down
March	up
April	up (slightly)
May	up (slightly)
June	up (slightly)
July	up
August	up
September	down
October	even
November	up
December	up

I hope I haven't bored you with all of this, but it seemed to be rather a close cousin to the 17-week cycle at times. Coincidence or not??

Kingston, Massachusetts G. W. Dyer

Comment: I think we have measured the 17-week cycle accurately enough so that we can be sure that it is not a seasonal manifestation. It is almost exactly 120 days long; it thus "slips" about 5 1/4 days a year. On occasion it might appear to be seasonal, by coincidence.

However, we cannot stress too strongly that the 17.12-week cycle is only one minor factor out of the sum total of major and minor factors which combine to create a given price at a given time.

E. R. D.

* * *

Dear Mr. Dewey:

I would like to point out an important fallacy to those stock market students who hope to prognosticate the long term movements of the stock market by relating it to solar cycles. If one studies a simple table of the Zurich sunspot numbers such as may be found in M. A. Ellison's book, "The Sun and Its Influence", it is obvious at once that the distance between the sunspot maxima is anything from 9 to 13 years, and that the 11 year cycle is merely an expression of the average.

If the stream of particles issuing from the sun at the times of solar disturbance really do affect the mental tempo of the human race in terms of optimism or pessimism, which is quite possible, the effect will be related to the actual amount of radiation at a given time, and not to an 11 year cycle.

It is interesting to note that many of the major market breaks in England, since and including the one in 1929 have occurred at about the time of a sunspot maximum.

What the stock market operator wants above all is not to be caught loaded up with stock at the time of a market break, and it might be excellent advice to tell him to sell around the time of a sunspot maximum. Unfortunately, I am assured by an astronomer that it is very difficult to know in any particular year whether we are in a year of maximum or not. In fact the astronomers do not know until the next year whether the maximum has been passed or not.

Sunspots apart, in England we think your equity prices ridiculously high.

Why a falling off in solar radiation should trigger off a wave of pessimism I do not know, but it looks distinctly as if it may be so.

Regent's Park, England John Bray

Comment: I don't believe that sunspots as such have any effect on the stock market.

I do believe that there are certain cyclic forces abroad in our solar system that affect sunspots and also affect human beings. This is particularly true when sunspots are studied with alternate cycles reversed.

If my observations are correct, therefore, there will be some correspondence between sunspot behavior and human activity.

I agree with you that our equity prices are ridiculously high.

E. R. D.

* * *

Dear Mr. Dewey:

It seems to me that the pressures influencing stock market behavior (and other things) are like water pressure in a pipe or electric pressure in a wire. In either case, no flow of water or electricity results unless a valve or switch is turned on, and then the flow proceeds in an amount determined by the pressure only while the valve or switch is in the "ON" position.

From the above, it seems to me that the amount of flow (or a change in the price of a stock) is logically a function of time as well as pressure.

One of the various pressures imposed on the price of an individual stock is the declaration and later payment of a dividend. I believe that if one is studying an individual stock a clearer picture of the cycles present can perhaps be obtained if the dividend effect is first removed.

Detroit, Michigan D. T. Hastings

PRO AND CON

Your reports are too technical for me!

* * *

I appreciate the reports, but would like more "how" and "why" articles on cycle research, even at the expense of some of the. . .generalities that have appeared.

The Cycle Round-up

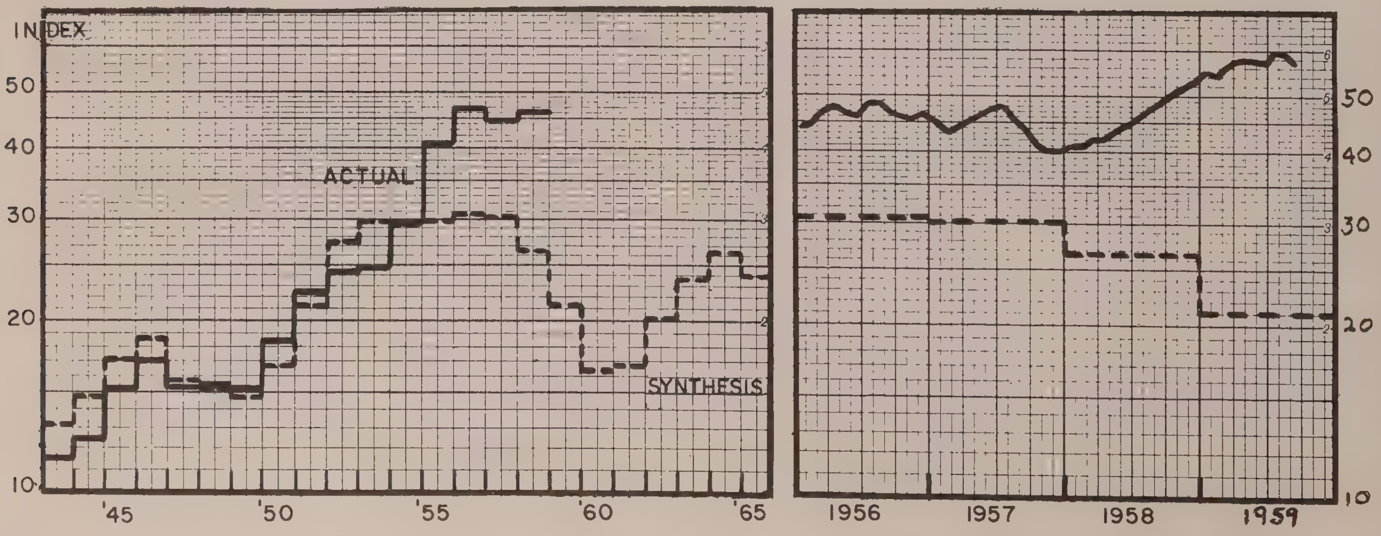
DECEMBER 1959

For those of you who are following any of the series we review from time to time in this section, the recent figures are reported below.

LATE FIGURES

Series	Unit	Month	Amount
Aluminum Production	Thousand tons	Aug	172.8
Automobile Factory Sales	Thousand cars	Aug Sep	256r 258p
Bond Yields—Moody's Domestic Corporate	Per cent	Sep	4.82
Corn Prices—No. 3 Yellow, Chicago	Cents per bushel	Sep	116.3
Cotton Consumption	Thousand bales	Aug	712
Egg Prices—Wholesale, Extras, Large, Chicago	Cents per dozen	Sep	40.7
Liabilities of Business Failures—Dun & Bradstreet	Million dollars	Sep	54.7
Oats Prices—No. 3 White, Chicago	Cents per bushel	Sep	68.6
Residential Construction Contracts—F.W. Dodge Corp.	Million dollars	Aug	1,551
Stock Prices—Standard & Poor's Combined Index	1941-43=10	Sep	57.05
Sunspot Numbers	Numbers	Sep	142
Unemployment	Per cent	Sep	4.64
Wheat Prices—No. 1, D.N.S., Minneapolis	Cents per bushel	Sep	224.3
Hog Prices—Wholesale, All Grades, Chicago	Dol. per 100 lb.	Sep	13.20

STOCK PRICES



COPPER PRICES

Our work to date on the cycles in copper prices is summarized by the broken line on the chart below.

The first section of the chart gives the quarterly data (the work is based on quarterly data). The solid line is the quarterly average of the actual monthly price of copper.

The second section of the chart repeats the quarterly line of the combination of the cycles, but compares this line to the actual monthly price of copper.

The price of electrolytic copper bars at New York City during recent months has been:

1959	July	30.08 cents/pound
	Aug.	29.89
	Sept.	31.02

The combination of the cycles includes five of the six cycles we have isolated so far in copper prices. The cycles are:

Length	% Above Trend At High	Date Of Ideal High
32.36 mo.	2.33%	1958.4
8.6 yr.	11.9	1950.8
9.28 yr.	14.3	1956.0
12.53 yr.	8.4	1953.03
14.8 yr.	5.7	1960.7
54.0 yr.	39.	1971.75

The 54-year cycle has not yet been included in the combination, but it is now on the way up toward an ideal high due in 1971. The underlying trend has also not been included in the combination shown on the chart. The long-term trend of copper prices is downward, and at the current time the downward trend and the upward 54-year cycle cancel each other to some extent.

The combination of the cycles had a peak in the first quarter of 1956. The actual peak came one quarter later. The drop in prices which followed was so severe that it can be called a collapse—prices dropped almost 50% in a continuous slide which lasted two years.

Thus, the actual low that came in 1958 appeared four quarters after the low in the line of the cycles.

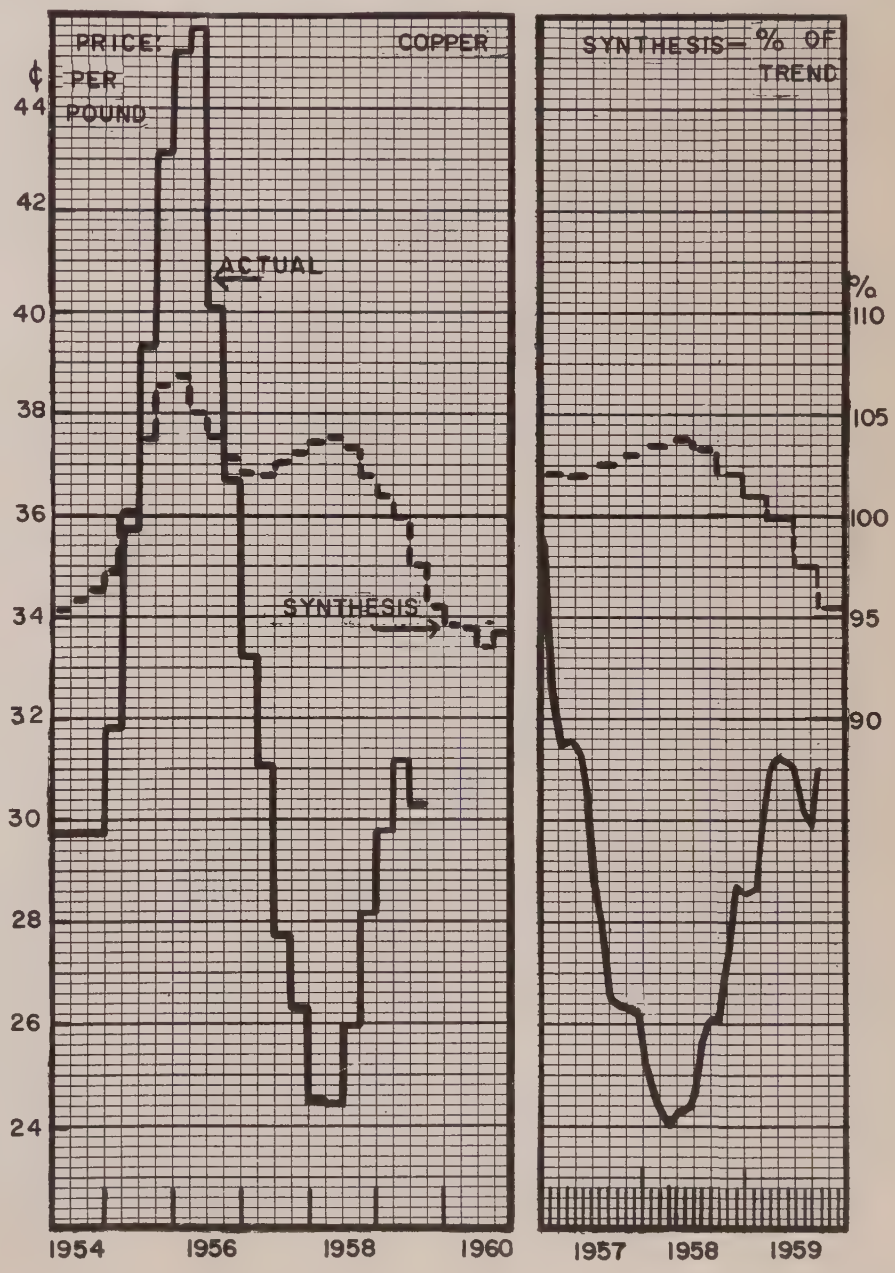
It now appears that the second quarter of 1959 may be the next top following the 1958 low. If this is true, and the line of prices did turn downward during the second quarter of 1959, the actual line is still four quarters behind the cycle line. (You can't tell a turning point until some time has passed.)

The next check point is the third quarter of 1960, when the line of combined cycles has its next scheduled low.

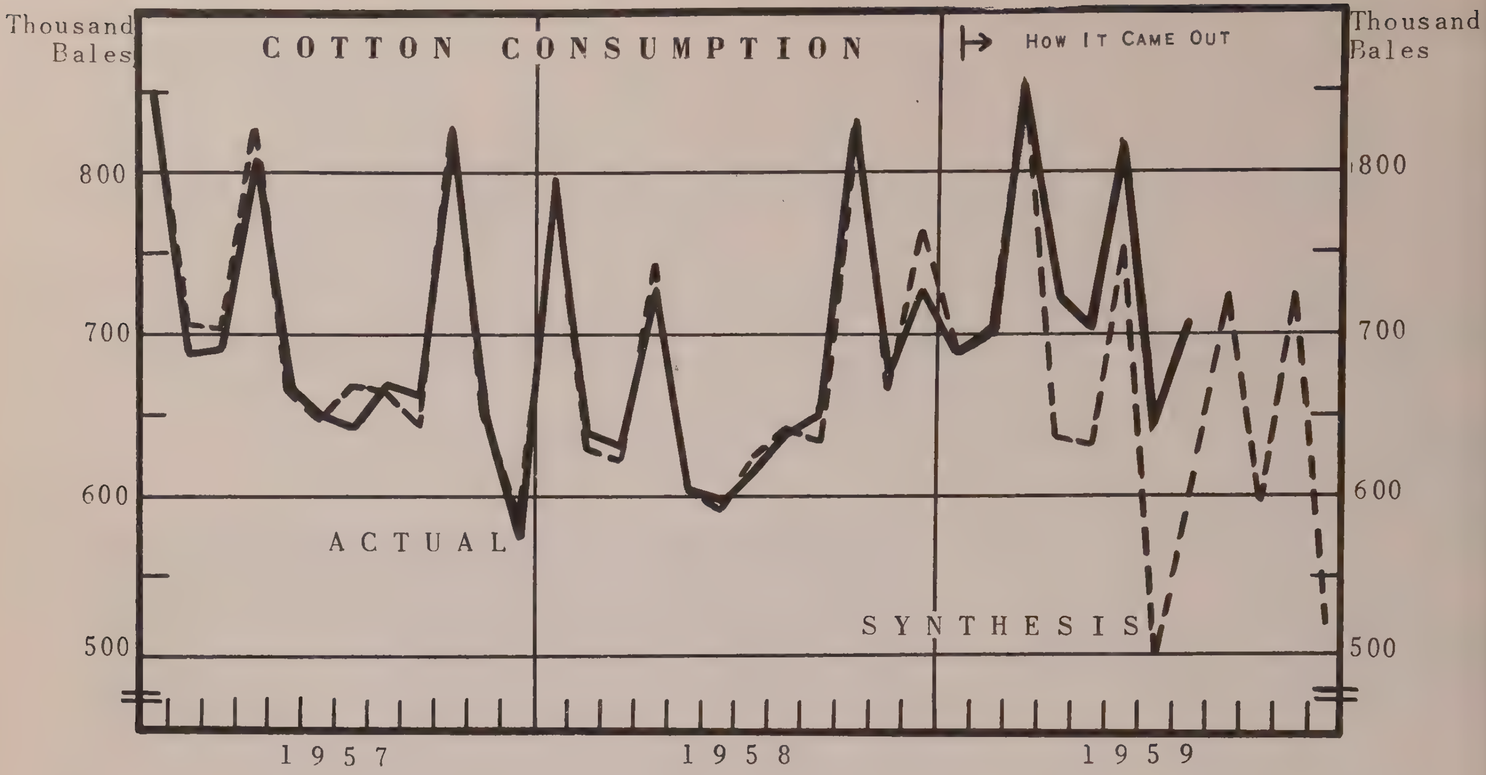
If prices are now in another downward slide, and this slide ends around the third quarter of 1960, then we can assume that the actual price of copper is again moving with the combination of the cycles.

When we reviewed copper prices last August we said that until the contour of the two lines again becomes somewhat similar, we should adopt a wait-and-see policy.

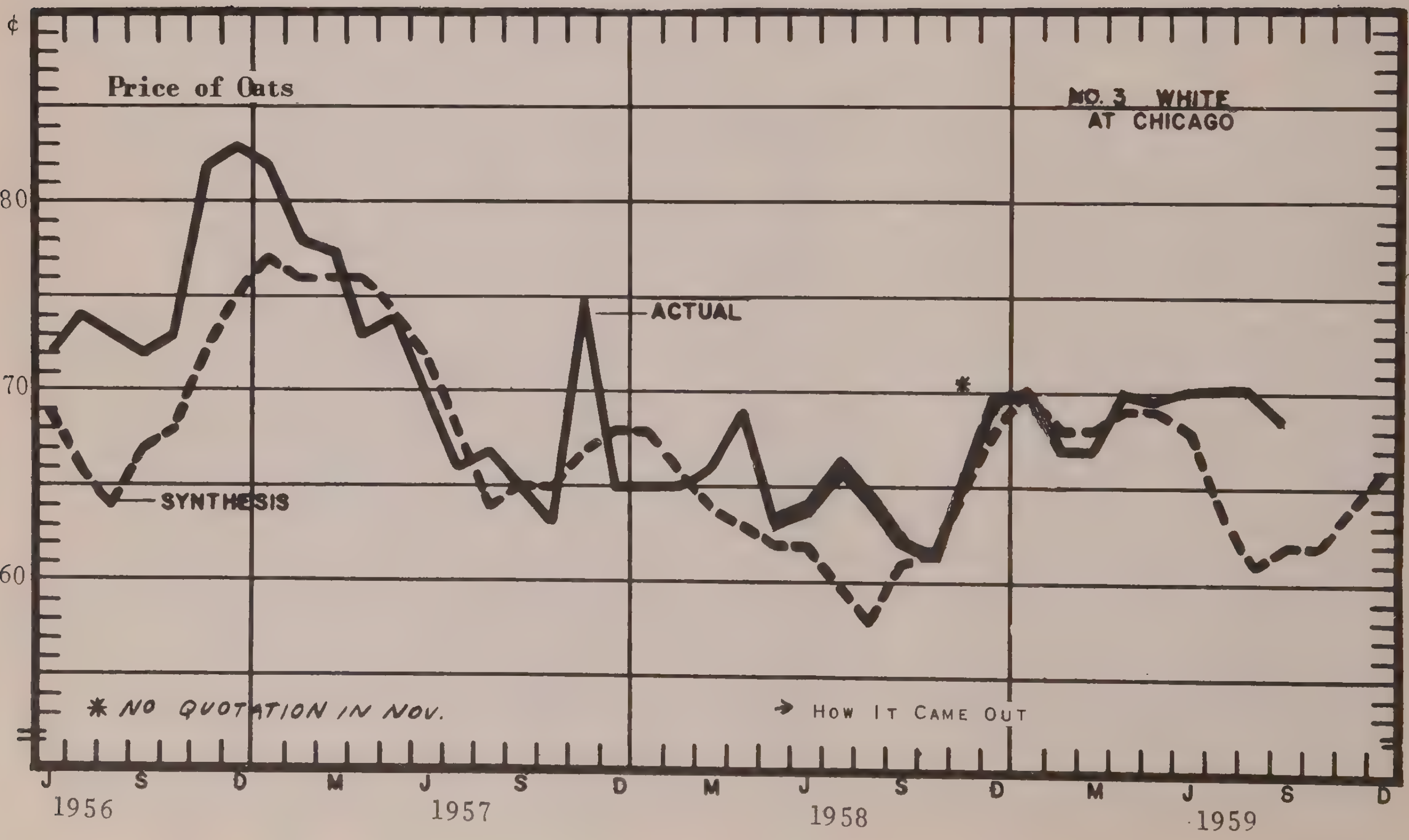
The appearance of a possible top in the quarterly price of copper adds considerable interest to the watching; this development makes possible the appearance of a 1960 low.



COTTON CONSUMPTION



OATS PRICES



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The Geisinger Indicator

FORECAST

The Federal Reserve Board's Index of Industrial Production (seasonally adjusted) dropped to 148 in September. The steel strike has begun to force a noticeable downturn in production.

The Geisinger Indicator for June (February 1960 when advanced) also turned down. It now stands at 4.0. This level is still reasonably high. It will go down more for July, and for August (April 1960 when advanced) it will lie between 3.8 and 0. However, the danger warning of -2.0 cannot be reached for at least three months, and much can happen between now and then.

The First Difference Indicator went down to -1.17 for August.

The Modified Geisinger Indicator for June (February 1960 when advanced) went down to 5.83. Again, this is still a relatively high level.

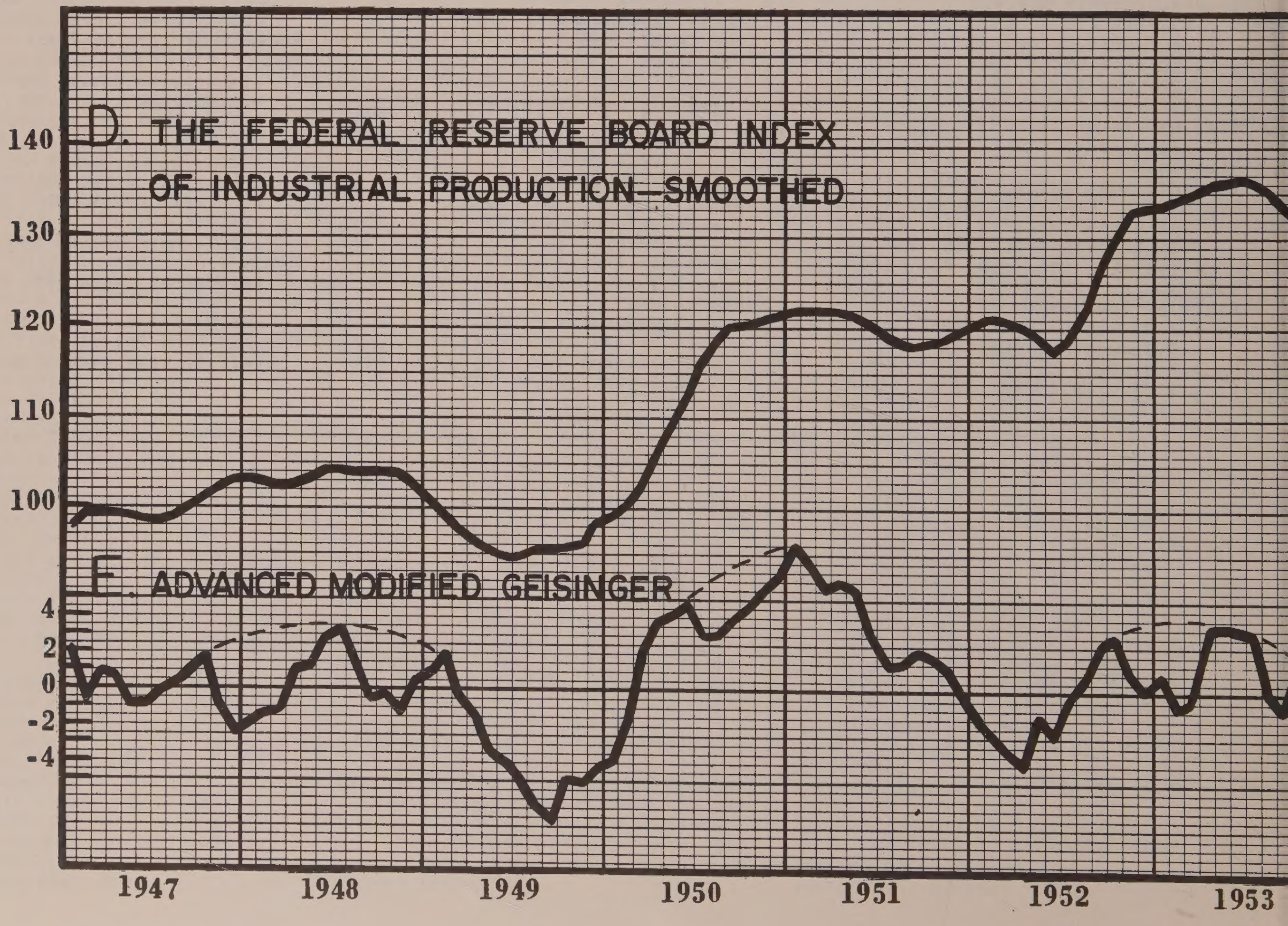
The great danger from the strike is that *many* separate parts of the economy will slow down, and that the cushion provided by the booming of one part at the same time as another part is depressed (as has happened in the recent past) will not be present.

If the Geisinger should cut -2 going down, we can look for trouble. Right now, however, the move is still sideways, rather than seriously downward, and in spite of the steel strike, the outlook continues good for the near future.

October 28, 1959 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Apr-1959	150	4.6	2.50	7.10	1959-Dec
May	153	5.0	2.67	7.67	1960-Jan
Jun	155	4.0	1.83	5.83	Feb
Jul	153	*	-0.17	*	Mar
Aug	149	*	-1.17p	*	Apr
Sep	148p	*	*	*	May

p - preliminary * - not yet available



BACKGROUND

Explanation

The Modified Geisinger Indicator is an index which, in the past, has usually gone up and down ahead of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the future.

The Modified Geisinger Indicator is the sum of the Geisinger Indicator and The First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published monthly in the **Survey of Current Business.** (Col. 2 of the table.)

The First Difference Indicator, is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. It registers the *rate* of advance or decline. It has some forecasting value, too. (Col. 3 of the table.)

The sum of these two Indicators is the *Modified* Geisinger Indicator. (Col. 4 of the Table.) It is advanced by eight months and plotted as the bottom line of the chart.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. (Col. 1 of the Table.) It has nothing to do with stock prices.

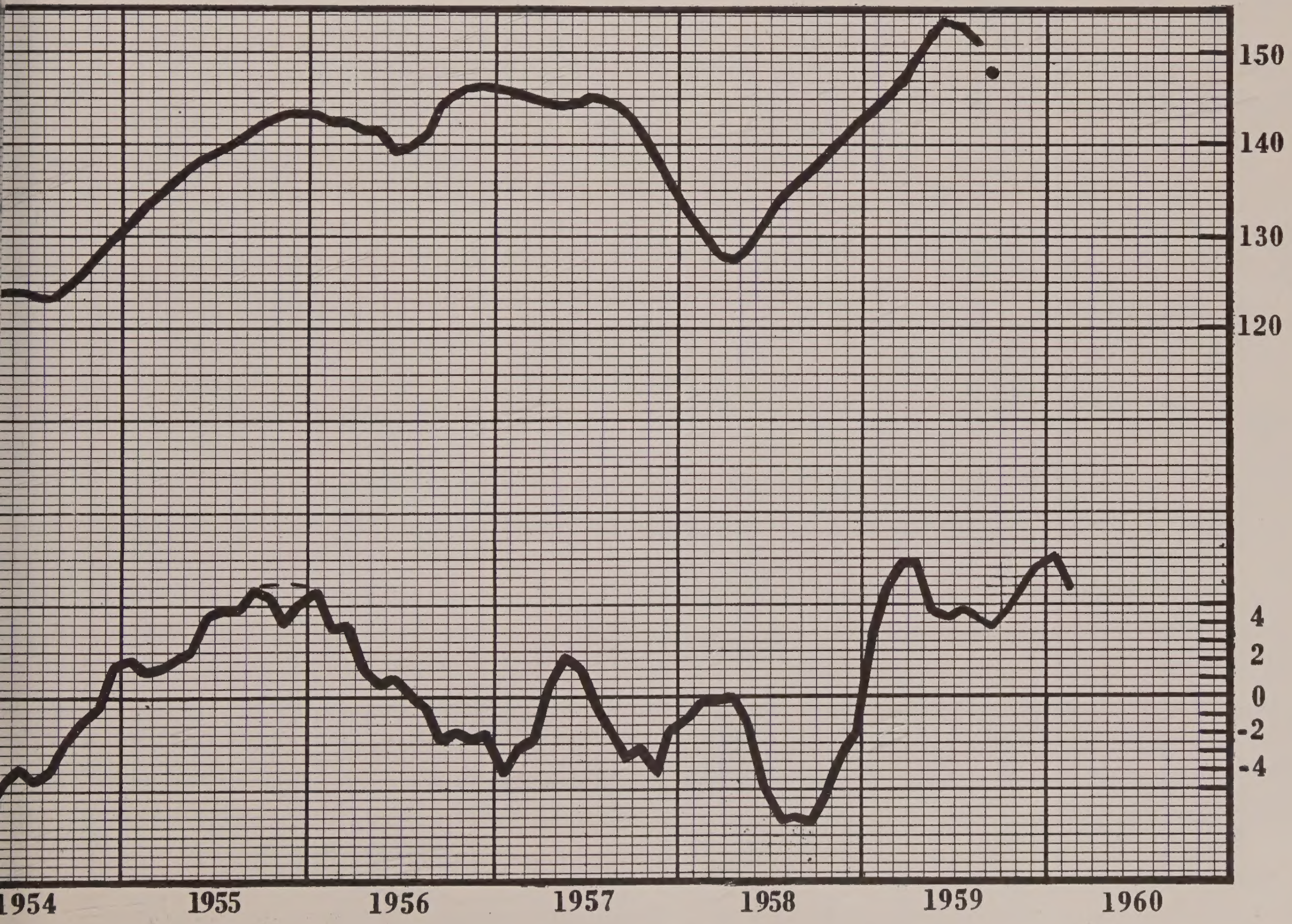
The smoothed values of the F. R. B. Index are plotted as the top line on the chart. It is smoothed by a 3-month moving average posted to the second position. The latest actual monthly Index of Production is recorded by a dot.

Interpretation

In the past, when the *Geisinger* Indicator going up, has cut 2, good business has followed; when, going down, it has cut −2, bad business has followed.

The important *turns* of the *Geisinger* Indicator and the *Modified* Geisinger Indicator often come 8 or 9 months before corresponding turns in Industrial Production. This fact gives some idea of what is around the corner. To help you to grope your way into tomorrow the Modified Geisinger Indicator is advanced 8 months. Where it is now, Industrial Production may soon be.

The degree to which the two curves correspond can be seen by inspection of the chart. The correspondence is general rather than specific. It is the broad sweep of the lines which is to be watched. The dashed lines which are added show how the eye should follow the Indicator.



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